

THE ANTHROPOLOGY OF AFRICAN APES

by Barbara J. King

It is a winter morning at the Smithsonian's National Zoological Park. Inside the Great Ape House, an infant gorilla swings from a hanging rope. He plays quietly and alone. Suddenly, the day's peace is shattered by screams. The baby gorilla, wearing a wide grin of fear, runs to his mother's embrace. The group's large and powerful silverback Kuja has taken off after the subadult male Baraka. The younger male's response to this aggression is immediate. Baraka shrieks in fear and bares his teeth in submission even as he tries to defend himself from Kuja.

What started this conflict, I did not see. I was at the zoo to record the gestures used by the five gorillas in Kuja's group—the arm extensions, head nods, and light touches on the body that apes use to communicate with one another. My focal subject of the morning was the baby; my videocamera was trained on his every move. Undergraduates at the College of William and Mary and I wanted to understand how infant apes come to use their bodies, limbs, and hands to communicate with their social partners. Gestures, we were finding, provide a fascinating window on the communication and cognition of our closest living relatives.

The African apes—gorillas, chimpanzees,

and bonobos—are profoundly social creatures, and their communication processes reveal abilities for emotional connection, empathy, the ability to understand another's perspective, and meaning-making. Not every interaction between two apes involves these creative aspects of communication. Sometimes, as when a dominant silverback gorilla beats his chest and charges at a young female, the outcome is predictable: the female almost certainly will submit to or avoid the male. (In bonobo groups, and in at least one chimpanzee population in the wild, the result might be quite different, because females bond together to resist male domination in ways that gorilla females do not.)

Let us return to Kuja and Baraka to see what happens as their conflict unfolds. Most striking is the decision of other family members to put themselves in harm's way in order to support Baraka. Mandara, Baraka's adoptive mother, rushes in to stand with or near him as he tries to deflect Kuja's bites and hits. Clinging to Mandara's belly is Kwame, the young infant who ran to her at the start of the morning's conflict. Mandara clearly supports her adoptive son Baraka over her mating partner (and Kwame's Dad) Kuja.



Ktembe (left) and Kwame. Photo courtesy Jessie Cohen, Smithsonian's National Zoo.





Kwame reaches out to his mother, Mandara. Photo courtesy Ann Batdorf, Smithsonian's National Zoo.

More surprising are the actions of Ktembe, the nearly-four-year-old juvenile male. Ktembe again and again darts into the middle of the melee. In a valiant attempt to lend aid to Baraka, he hits out at Kuja. Comparatively enormous, Kuja swats Ktembe away with a hand—and with ease. Still, Ktembe does not give up.

Meanwhile, for all his evident fear, Baraka refuses to submit completely to Kuja. Baraka remains in a sitting position; repeatedly and tensely, Kuja pulls on Baraka's limbs as if to urge him to go lower, to prostrate himself. If, as I

suspect, this is a suggestion on Kuja's part, Baraka chooses to ignore it. He is not big or strong enough to beat Kuja in a fight, but he is not about to give up either.

All at once, there is a shift in the proceedings. A keen observer can see Kuja's muscles relax, and the tension drain out of his body. He sits down. Immediately, the other gorillas, including Baraka, "read" this change in mood. They disperse into other parts of the enclosure; the fight is over.

What I like about this event stems from its routine nature. Neither spectacular in intensity nor severe in its outcome, this sort of conflict is a natural occurrence for this species when a younger male is maturing in the presence of an older dominating silverback.¹ And it reveals a depth of communication that goes beyond a simple exchange of messages between a sender and receiver, the framework in which scientists used to think of animal communication until relatively recently.

The Emotional Ape

Made visible in the ongoing actions of the apes is their emotional connection. At center stage are not the movements themselves, the screams and hits and assumed body positions, but rather the relationships among the apes. Mandara and Ktembe chose to become involved in a potentially risky encounter, and their choice underscores their bond with Baraka. The meaning of the encounter is cre-



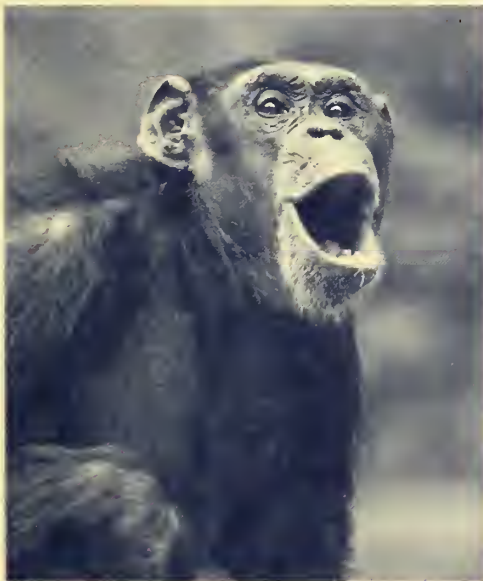
Kuja, the silverback male. Photo courtesy Ann Batdorf, Smithsonian's National Zoo.

ated by the participants as they come together and respond contingently moment by moment. Nothing was preordained about the outcome. Rather, the apes tuned in to subtle and not-so-subtle cues and “read” each other’s muscle tone, gesture, and facial expressions, and attended to vocalizations as well. The communication is at once embodied, emotional, and yet also cognitive. The more Baraka resisted complete submission, the more Kuja tried to get across with gestures what he wanted from the younger male.

Can this anecdote tell us even more? Did Mandara and Ktembe empathize with Baraka’s predicament at the hands of a more powerful male? That is, did these gorillas risk retaliation from Kuja because they were able to take into account Baraka’s perspective as a weaker animal under attack, and “walk a mile in his shoes” to take into account how that might have felt? To these questions I cannot offer a definitive answer, but taking a broader perspective suggests strongly that African apes practice empathy and perspective-taking on a fairly regular basis.

Empathetic Behavior

One of my favorite ape stories involves another event that unfolded in the midst of a routine day, this time at Arnhem Zoo in the Netherlands. It is recounted by primatologist Frans de Waal, the scientist who more than any other has advanced our understanding of ape empathy and perspec-



Krom, a female chimpanzee. Photo courtesy Frans de Waal.

tive-taking. On this day, adult female chimpanzee Krom’s attention was caught by a series of tires that zoo staff had sprayed with water and hung on a horizontal log extending out from the apes’ climbing structure. Krom zeroed in on one tire particularly, the last in the sequence: “Krom pulled and pulled at the one she wanted ... [she] worked in vain on this problem for over ten minutes, ignored by everyone except Jakie, a seven-year-old Krom had taken care of as a juvenile.” As soon as Krom gave up her attempt, Jakie walked over to the same spot: “Without hesitation he pushed the tires one by one off the log....When he reached the last tire, he carefully removed it so that no water was lost, carrying it straight to his aunt, and placing it upright in front of her.” In other words, Jakie, in addition to carrying out some skilled tire-wrangling, empathized with what his aunt wanted—and then made it happen.

Sometimes, the empathy comes through more subtle actions. At the San Diego Zoo, anthropologist Ellen Ingmanson observed what happened when two bonobo brothers contested over a prized food item. Kevin and Kalind had been for some time vying for the group’s highest-ranking position. Kevin was older than Kalind by two years, but on this day, Kalind prevailed and monopolized the food. Giving off the high-pitched happy chirps that bonobo watchers know signal pleasure, Kalind ate; older brother Kevin sat in what Ingmanson described as a dejected posture. At this point, baby brother Kak, age 7, put himself in the picture. Kak laid his hand on Kevin’s shoulder and looked him right in the eyes. Then, he walked over to the victorious Kalind and groomed him. What a savvy seven-year-old! Kak paid tribute, by grooming, to the victor but first stopped to empathize—this is Ingmanson’s interpretation—with the loser. To do this, he must have been able to project into his own mind something of the emotion of defeat felt by his older brother.

Might examples like this come about only because the apes live in captivity? Could their heightened responses stem from their close relationship with humans? Evidence to the contrary comes from the work of long-time chimpanzee observers Christophe Boesch and Hedwige Boesch-Achermann, who work at Tai in the Ivory Coast of West Africa. The Tai community’s dominant male, Brutus, showed empathy akin to young bonobo Kak’s when a female chimpanzee was killed by a leopard. Brutus sat with Tina’s body for hours, and controlled which community members could and could not approach. The only infant



Lana, a young adult female bonobo from San Diego Zoo with her first infant. She is using both hand and facial gestures towards the observer, Ellen Ingmanson, in a greeting and to show her the infant who is clinging to her waist. Photo courtesy Ellen Ingmanson, 1980s.

allowed to come near was Tarzan, Tina's baby brother. He sat and gently tugged on Tina's hand. By his choice to allow this, Brutus seems to have acknowledged the special bond between Tarzan and Tina, and felt empathy for Tarzan's emotional state.

Two chimpanzee mothers at Tai taught their youngsters how to crack nuts with tools. One mother slowly demonstrated the nut-cracking technique to her son and the second intervened as her son positioned the nut for cracking. Although direct teaching like this is rare in chimpanzees, a lower-level type of "scaffolding" behavior is more common. Mothers place hammer tools and nuts to crack in appropriate positions, for example, to facilitate their offsprings' first attempts. Both techniques, though especially outright teaching, imply that the teacher understands something specific about what the pupil knows—or does not know. All educators function in this way; we do not walk into the classroom and teach our college students the ABC's, nor do we convey the fine points of physics to our kindergartners.

These behaviors of the Tai chimpanzee are best understood through the lens of empathy and perspective-taking. Skeptics can always come up with creative alternative explanations for empathy and perspective-taking. In

the case of Kak or Brutus for example, maybe the apes were selfish and only trying to "get in good" with another social partner by acting in a way that seemed kindly. Or maybe their seemingly empathetic behavior was carried out without any conscious intent but was somehow programmed by genetics.

Ape Communication and Cognition

In any single case, it might be possible to explain away ape empathy and perspective-taking. But in aggregate, the evidence is strongly convincing. I often wonder how much more "out there" is left to discover about communication and cognition among wild apes. Anthropologist Richard Wrangham observed an 8-year old chimpanzee in Uganda carrying around a small log. The youngster retrieved the log if it fell from a tree, and even fashioned a nest for the log at night. Wrangham thought the ape might have constructed an imaginary friend for himself to reduce the sting of his mother's inattentiveness during a pregnancy.

Researchers who want to understand ape communication and cognition benefit from recent experimental studies. Emma Cartmill and Richard Byrne, working with orangutans in captivity, show that these great apes of Asia modify their communication strategies depending on

whether their human partner apparently understands, or does not understand, their message. The orangutans were offered highly prized and not-so-highly prized foods in an experimental situation. They had clear opinions about what food they wished most to eat and gestured to zoo staff to make those preferences clear. When the humans responded as if they somewhat understood, by giving half the food desired to the orangutans, the apes repeated the gestures that they had been using all along. However, when the humans conveyed no inkling that they grasped what the orangutans wanted, and offered only undesirable food, the apes switched tactics and began to use different gestures altogether.

Primatologist David Leavens notes that “the orangutans made tactical decisions about their signals as a consequence of different degrees of understanding by their human caregivers.” This finding bears directly on ape perspective-taking, and similar experiments will no doubt soon be carried out using African apes as subjects. Looking at the field of ape communication generally, Leavens is already able to conclude that the great apes “have demonstrated that they display a rapid and sophisticated negotiation of signal meanings.” Active negotiation between partners is a key aspect of both perspective-taking and meaning-making, as we have already seen.

A message jumps out from the research on apes that I have described thus far. No research method is naturally superior to all others. Rigorous experimentation and keen observation, quantitative report and qualitative description—all are worthy methods and must work in concert to fill in the picture about what our closest living relatives think, know, and feel. Even the anecdotal evidence has its place in illuminating rare behaviors among the apes.

Washoe

What broader take-home messages can be extracted from this body of work? First, emotion plays a critical role in both communication and cognition of African apes. Ape communication is not necessarily *either* emotional *or* cognitive; it may be both. In fact, a robust back-and-forth exchange of emotion-based gestures and vocal expressions may well bootstrap cognition. This suggestion gains support from the skills of the famous “language apes.” Washoe, the chimpanzee who made global headlines when she died last October, learned aspects of American Sign Language by virtue of her emotion-based relationship with human

caretakers. Washoe signed to herself; signed with her ape companions in high-arousal situations; and taught some signs to her adoptive son by molding his hands. When Washoe wanted to refer to an item for which she had no ready vocabulary, she sometimes created her own label, as in signing “open food drink” for “refrigerator.” These facts are well-known. What has sometimes been forgotten is the depth of the emotion that underlay her language learning. Washoe’s feeling for others became visible when she expressed empathy for her companions. When Roger Fouts, her closest human friend, broke his arm, Washoe noted that he was “hurt” and requested him to come closer. She then offered Roger comfort by kissing his arm.

Kanzi

In my opinion, one ape stands at the forefront of ongoing ape-language work. Kanzi is a bonobo who produces and comprehends utterances made with human symbols. These symbols are called lexigrams—abstractions on a computer, such as a series of lines that looks something like a Japanese letter, which stands for “potato”; see examples at <http://www.iowagreatapes.org/bonobo/language/>. Kanzi comprehends a surprising amount of spoken English, as I found out when the psychologist Sue Savage-Rumbaugh invited me to meet him at Georgia State University (he now lives at the Great Ape Trust in Iowa). I brought Kanzi a ball, which I had hidden in the pocket of my blue jeans. I told him that I had a surprise for him. He went to his symbol



Kanzi working with lexigrams with Liz Robert-Pugh. Photo courtesy Great Ape Trust of Iowa.

board and guessed “Egg?” Unfortunately, I had not brought him something to eat!

Unlike Washoe, Kanzi was never explicitly tutored in language. He was present in the same room—though scampering around as infants will tend to do—when his mother took “language lessons” from researchers. It soon became apparent to Savage-Rumbaugh that Kanzi could use symbols appropriately, far more so than his mother. From that point on, Kanzi was treated by human caretakers not only as a thinking and feeling ape but also as an ape capable of participating in emotion-based cultural routines. He hiked in the woods, played games, and engaged in emotional interactions, as Par Segerdahl, William Fields, and Sue Savage-Rumbaugh explain:

“[Kanzi] acquired language in the context of climbing trees, tracking forest paths, searching, finding, preparing and eating food, chasing others and being chased, tickling and being tickled, frightening others and being frightened, pretending to bite others and pretending to be bitten, comforting others and being comforted, giving food to others and receiving it, being aggressive towards others and making friends again.”

It is arguable whether Kanzi has “acquired language” in its fullest sense. He does not, to cite an obvious instance, compose poetry or otherwise employ sophisticated concepts to weave stories about the past and the future. Nonetheless, Kanzi has shown the world of science that an ape nurtured in certain ways can blossom into a life of language-using, and that basic language skills are neither innate in nor specific to the human brain. Every year, Kanzi seems to make new strides. Segerdahl et al. now believe that Kanzi is trying to express words through speech, although his voice is hard for humans to understand.

Giving Apes Their Due

Is it any wonder that treating the apes as full social partners unlocks latent language learning, given that their natural grounding is in an emotional process within their own social groups?

What we learn about great apes impacts directly on our understanding of the process of becoming human. To the extent that certain characteristics of communication and cognition occur in African apes across species and also across living contexts—different populations both in the wild and in captivity—it appears increasingly likely that these characteristics already were in place in the common ancestor of great apes and humans.

This probability establishes an “evolutionary platform” from which our ancestors’ behaviors evolved. If the ape-like ancestors that gave rise to modern-day chimpanzees, bonobos, and gorillas were capable of empathy, perspective-taking, and meaning-making, as well as of aggression and violence, we might want to think seriously about how to research the emotional lives of early *Homo sapiens* and ancient humans.

The archaeologist Steven Mithen describes Neanderthals—those fascinating early people who hunted mammoth, buried their dead, and apparently went extinct from competition with *Homo sapiens*—in unconventional terms. Neanderthals, he writes, were “intensely emotional beings: happy Neanderthals, sad Neanderthals, angry Neanderthals, disgusted Neanderthals, envious Neanderthals, guilty Neanderthals, grief-stricken Neanderthals, and Neanderthals in love.” To project “love” into the past takes a cautious approach, to be sure, but to consider critically the subject, and how researchers might look for evidence of emotions, is warranted for a full evolutionary perspective on human behavior. In my most recent book, I have even suggested that ape and early-human emotion, communication, and cognition point us towards recognizing the deepest roots of what later became human religiosity.



Kanzi. Photo courtesy Liz Rubert-Pugh.

Recent research offers this critical message: that we desperately need a revolution in how we think about and treat the African great apes. It is tragically clear that we are in a race against time to learn more about apes in the wild—and to protect them. The triple whammy of habitat destruction, exposure to diseases such as ebola fever, and the bushmeat trade means that our closest living relatives are under unprecedented threat of extinction.

This threat brings with it intellectual worries. For almost half a century, thanks first to Jane Goodall, and then primatologists such as Christophe Boesch, William McGrew, Tetsuro Matsuzawa, and Andrew Whiten, we've known that chimpanzees in the wild make and use tools. For at least a decade we have been certain that chimpanzees are cultural beings: their tool-using, communication and other behaviors differ from wild population to wild population owing to learned preferences rather than aspects of innate biology, ecology or environment. But we are still learning so much more. Only last year did we discover, thanks to the research of anthropologist Jill Preutz at the site of Fongoli in Senegal, that chimpanzees fashion spears to hunt small prosimians in tree holes!

The highest and most painful costs of ape extinction do not relate to our loss of knowledge. It would be the loss of these thinking, feeling kin themselves. The African apes have shared so much of our evolutionary journey with us and have shown us fascinating glimpses of their own trajectory in the world of complex emotions, cognition, and communication. It is our responsibility to use the fruits of our own evolution to help our closest living relatives in their moment of peril.

Footnote

¹ Baraka was sent to a zoo in Omaha in 2004 to become the silverback of his own group. He returned to the National Zoo in late 2006 to take the place of Kuja and Mopie, the two silverbacks who died within two days of each other in the summer of 2006.

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Website: Bushmeat Crisis Task Force, www.bushmeat.org
Some of the links provide graphic photographs that may not be appropriate for younger students.

The material in this article is adapted from Barbara King's most recent books, *Evolving God: A Provocative View on the Origins of Religion* and *The Dynamic Dance: Nonvocal Communication in African Apes*.

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TEACHING AND LEARNING ABOUT THE GREAT APES

by Carolyn E. Gecan



Seeing apes in their natural habitat is an experience not readily available to the average person. For whatever reason, most of us will never have an opportunity to research great apes in Africa or Southeast Asia. Nor will most of us have the financial resources to travel with commercial tours into the rain forests of either continent. Thanks to computers and the internet, teachers have a number of interesting options for engaging their students in learning about the lives of the great apes.

Thinking About a Zoo Field Trip?

In some locales, a local zoological park may afford your students the chance to see apes in captivity. Some zoos even offer the public a glimpse of apes in near-natural habitats. However, many areas of the country either do not have a zoo within easy visiting distance or do not have a zoo with great apes in residence. If your region has a zoo with an exhibit featuring great apes and you are considering a field trip to see them, do your own research first. You might want to begin by visiting the official web site of the Association of Zoos and Aquariums (AZA), an American organization (<http://www.aza.org/accreditation>) or the World Association of Zoos and Aquariums (<http://www.waza.org/home/index.php?main=home>). Is your local zoo accredited? If yes, check your zoo's official web site. Is there a great ape exhibit? If yes, and there is live "web cam" coverage of its apes, monitor the site off and on for a few days. Would visiting these animals be beneficial to your students' anthropology education? Would visiting these animals enhance your curriculum? Consider the conditions of captivity. Would you be comfortable taking your students to see the apes on display? If the local zoo is *not* accredited, try to find out why. Definitely visit the zoo yourself. You may decide that you do not want to take your students there, even if it does house great apes.

If you decide you want to accompany your students to the local zoo, provide them with activities to focus their attention on specific and concrete observational activities. From your own experience you may have noticed that many zoo visitors tend to spend very little time at any one exhibit. Your students may be conditioned to "skim" the zoo, especially if the animals are not particu-

larly active. Enriching the student experience by providing pre-visit activities, observational requirements while at the zoo, and post-visit follow-up activities will enhance student learning. Some zoos, such as the National Zoological Park (NZIP) in Washington, D.C., (<http://nationalzoo.si.edu/Audiences/Educators/>) have Education Departments that provide extensive information to help teachers plan their zoo field trips. These departments may provide printable activities for students of varying ages. The materials provided by the NZP provide a model of items to look for when you check your zoo's website.

The 20th Anniversary Issue of *AnthroNotes* (Spring 1998, vol. 20 no. 1, pp. 9-12) provides an excellent set of activities in its "Teacher's Corner: Zoo Labs." These labs were written by Alison S. Brooks for classes at George Washington University, and adapted for high school anthropology students by Carolyn E. Gecan. Since apes are usually only a very small part of an overall collection of species at a zoo, an anthropology teacher might want to broaden the goals of her students' zoo visit to include all non-human primates on exhibit. The Zoo Labs were designed with this larger population of animals in mind. The chart "Classification of the Living Primates" that follows the lab activities can be helpful in extending student focus from apes to other non-human primates. The 20th Anniversary Issue can be downloaded free from the Smithsonian Institution Digital Repository (<http://si-pddr.si.edu/dspace/handle/10088/3541>). Even as simple an assignment as requiring students to sketch their favorite ape at the zoo can slow down the observation process and force students to look more carefully at the animals.

Because some of the vocabulary used in the Zoo Labs may be new to students, plan a vocabulary-based lesson to illustrate the new terminology. For example, one lab activity instructs students to focus on primate locomotion. Does everyone in the class understand the term "locomotion" when applied to human and animal movement? Students can observe various types of locomotion while viewing a video or video clips such as those mentioned below.

Informal and amusing activities for the classroom or outdoors help to illustrate a few aspects of ape anatomy



Students attempt knuckle walking in Carolyn Gecan's class. Photo courtesy Carolyn Gecan.

and locomotion. These can be used as part of an introduction to the Zoo Labs, as follow-up to a film, or as post-field trip debriefing. All work best with students dressed in jeans and with feet bare. All can be done indoors or out, but if possible, outdoors is much more fun. Because the last activity with the bananas will potentially create a mess, you should have paper towels on hand!

- **Try knuckle-walking as gorillas:** First, instruct students to crouch in place with bare hands on the ground, with feet, not knees, also on the ground. At your signal, have the class “walk” forward a brief distance. After stopping them, ask about potential problems that might be encountered if bare hands were constantly in contact with debris on the forest floor. Next, with students still in a crouch, tell them to roll their hands into fists and rise up onto the backs of their knuckles, fingers completely tucked in. Tell them to “walk” a few more feet forward. After stopping, ask them how knuckle-walking benefits the gorilla’s hands. To extend this comparison of gorilla and human anatomy, ask the students to describe various difficulties encountered while attempting the knuckle-walk: are the head and neck comfortable as one tries to look forward while walking? How might gorilla anatomy differ from human anatomy

where the skull is attached to the neck? What about arm and leg length? This might be a good time to discuss the differences between habitual bipedalism (humans) and habitual quadrupedalism (great apes) as modes of locomotion.

- **Try fist-walking as chimpanzees:** Follow the exercise above but with a chimpanzee variation. Maintain the crouch stance. But, instead of rising all the way up on the knuckles of the fist, tell students to tuck their fingers loosely under so that the heel of the hand is resting on the ground. They then “walk” forward a short distance. Again request observations from your students about their insights into chimpanzee anatomy that they noticed while attempting this challenging mode of locomotion. How else would a chimpanzee hand be different from a human hand? Where would calloused skin be most necessary? How might wrists be different?
- **Try brachiating as the “lesser apes,” gibbons and siamangs:** Tell your students to imagine they are going to cross the room on a set of monkey bars. After raising their arms overhead and “grasping” the imaginary first rung with both hands, instruct them to “swing” the right hand one bar for-



Students discover they *don't* have opposable great toes during the “Banana Day Challenge,” a popular activity.

ward to the second rung—about two feet away. Then, follow with the left hand moving to the third rung. Instruct them to freeze in mid-swing. Ask them to comment on how their bodies would move in space if they were really brachiating from rung to rung. Ask for comments on how the bodies of habitual brachiators might be different from humans and gorillas.

- **Try “toe-centric” manipulations of objects:** For these activities you will need the following items for each student: a pen or pencil, a large sheet of plain newsprint, and a banana. First, have students sit on the floor with bare feet with the paper and pen in front of them. Tell them that they must not use their hands at all. Instruct them to pick up the pen by using only their toes, grasp the pen in a position to write, and then print their names on the paper. Have the students share their accomplishments. Next, after finishing the writing exercise, they should put aside their pens and place the bananas on the paper in front of them. The “Banana Challenge” is another hands-free activity. They must pick up their banana, peel it with their toes, and hold it so that it can be raised to the chin. Once most in the class have done their best, conduct a discussion of what went wrong and why the task was so difficult. At this point, ask the students which is more specialized: the human hand or the human foot? How can they tell that the foot is more specialized? To emphasize this fact, ask them to stand and take a few steps while observing what their great toes do as they walk. How does having a forward facing great toe make habitual bipedalism easier than having an opposable great toe? How does having an opposable great toe contribute to chimpanzee locomotion?
- **Follow-up:** A writing assignment in class following the activities described above will enhance the experience for your students. Some of the discussion topics can be used as writing prompts. They can also serve as springboards for group or individual research projects and presentations on human and ape anatomy, evolutionary connections, and investigations of other non-human primates.



It's not easy if you don't have opposable toes! Writing activity in Carolyn Gecan's anthropology class.

Sources for “observing” the great apes in your classroom

Because so many students are eager and savvy internet users, you can develop lessons that draw upon these interests and skills. Many accredited zoos in our nation and elsewhere have “critter cams” trained on certain enclosures. Others provide a repository of short video clips that showcase specific animals and/or species. Students can “tour” many more of these on-line primate exhibits than would be possible on a local field trip to just one zoo. Provide your class with a web listing of such opportunities and allow them to visit with supervision. As they do, suggest they keep a log of the apes encountered, the activities they see, and anything else pertinent to the unit you are teaching. Plan virtual visits to various zoos by using the links provided at the AZA site (see page 8). A quick sampling:

- Zoo Atlanta's animal videos collection includes six very short pieces starring gorillas and orangutans (<http://www.zooatlanta.org/>).
- The San Diego Zoo's “Absolutely Apes” page (http://www.sandiegozoo.org/zoo/ex_absolutely_apes.html) features seven orangutans and three siamangs living in a new, lush environment with enough room for the animals to swing freely. This zoo's “ape cam” gives on-line visitors an opportunity to observe these animals as they go about their daily lives.

- The Bronx Zoo provides access via its “Distance Learning Expeditions.” Read about the program “Gorillas, Gentle Giants in Crisis” on the Expeditions page (<http://bronxzoo.com/bz-education/distancelearning?>).

In addition to the AZA members who provide access to materials on-line, there are very useful resources located at the Great Ape Trust (GAT) web site (<http://www.greatapetrust.org/index.php>). This particular site is rich with video clips, readings, web links, and scientists’ reports on their research into the minds of the great apes: bonobos, chimpanzees and orangutans. An entire unit could be centered on this one site alone. Sue Savage-Rumbaugh, whose research focuses on ape communication, intelligence, and society narrates a video about Kanzi, a bonobo, and other bonobos in the wild at <http://www.ted.com/index.php/talks/view/id/76>. When this talk was filmed, Kanzi and the other great apes in Savage-Rumbaugh’s research group resided at the Language Research Center on the Atlanta campus of George State University. Since then the apes and researchers have moved to the Great Ape Trust and more footage can be seen at the GAT web site. In particular, she can be observed wearing a mask while conversing with a bonobo, in order to remove any facial cues she might inadvertently provide for her research subject (<http://www.greatapetrust.org/research/srumbaugh/rumbaugh.php#>). Other resources:

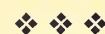
- Your students may be intrigued by the latest evidence of chimpanzee intelligence when they watch a clip titled “Frans Lanting on the Fongoli Spear Hunting Chimps” at <http://primatology.net/>.
- If your students want to listen to primate vocalizations, direct them to <http://pin.primate.wisc.edu/av/vocals/> where they will hear snippets of ape sounds as well as sounds made by a large variety of monkeys and other primates.
- Harvard University’s Cognitive Evolution Laboratory site offers ape and other primate sounds, images, and video on its Multimedia page located at <http://www.wjh.harvard.edu/~mnkylab/media.html>.
- A number of excellent nature films focus on great apes in the wild. Your school may have access to local or state repositories that loan out copies of National Geographic films from Jane Goodall’s legendary career.

- Access to a group of National Geographic ape videos with narration is provided at http://video.nationalgeographic.com/video/player/animals/mammals-animals/apes/gorilla_lowland_tools.html?source=G2114c&kwid=ContentNetwork|1008198085

Some of the videos may be distressing to younger or more sensitive students. The topics covered on the second page include short videos on poaching and the recent executions of gorillas in Congo.

- For students who want to learn more about the research of Roger and Deborah Fouts with five chimpanzees who were taught American Sign Language, direct them to the Chimpanzee and Human Communication Institute (http://www.cwu.edu/~cwuchci/visitor_information.html) and its companion site, Friends of Washoe (<http://www.friendsofwashoe.org/>). Both offer photos, video clips, sample curricula for teachers and three web cams situated in three different parts of the chimps’ home. Even though Washoe died in 2007, and her companion Moja in 2002, these web sites are well worth a visit and provide information about all five animals. The printable “Chimpanzee Facial Expressions” hand-out is a hoot.

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ANTHROPOLOGY EXPLORED

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NINETEENTH CENTURY SMITHSONIAN ANTHROPOLOGISTS: CREATING A DISCIPLINE AND A PROFESSION

by Pamela M. Henson



When the twentieth century dawned, anthropology was firmly established at the Smithsonian. The U.S. National Museum had a substantial department devoted to the study of human culture, and extensive collections documented human life from around the globe. At the Smithsonian's Bureau of American Ethnology, led by the formidable John Wesley Powell, ethnologists and archeologists scoured the American West for remnants of Native American culture. Late nineteenth century American anthropology, rife with sometimes public controversy, was not a field of quiet contemplation. The Smithsonian played a central role in the emerging profession of anthropology, including ethnology, archeology, and philology, or what today we would call linguistics.

How and when did anthropology become such an important part of the Smithsonian Institution (SI)? In 1838, almost 50 years after the Revolutionary War ended, the United States sent out The United States Exploring Expedition to assert the nation's status as equal to the imperialist nations of Europe. The six navy ships circumnavigated the globe from 1838 to 1842, mapping the earth, exploring Antarctica, and collecting cultural materials from around the world. Aboard the ship was a crew of "scientifics," men trained in natural history who were charged with collecting and studying the botany, geology, zoology and cultures they encountered along the way. (More about the Expedition is available at www.sil.si.edu/Digital_Collections/usexex/). Secretary of War Joel Poinsett (for whom the Poinsettia was named) eagerly received the many shipments of specimens and artifacts sent back during the expedition. He also began to plan for a place where about forty tons of these precious "curiosities," including 2500 ethnographic and ar-

chaeological specimens, could be stored, preserved and studied. In 1840, Poinsett helped create a "National Institute for the Promotion of the Arts and Sciences." For its growing collection, the Institute was allotted space in the Patent Office Building's exhibit gallery, in a building that now houses the National Portrait Gallery and the Smithsonian American Art Museum. The Institute struggled with inadequate funding and hoped to secure control of an unusual bequest from an English scientist.

The Founding of the Smithsonian Institution

That mysterious bequest came from a wealthy English chemist and mineralogist named James Smithson. The illegitimate son of an English gentlewoman, Elizabeth Keate Hungerford Macie, and the Duke of Northumberland, Hugh Smithson Percy, Smithson struggled all his life to establish his status in British and Continental society. His will of 1826 left his estate to his nephew, Henry James Hungerford, then a young man. But Smithson added a peculiar clause. He stated that if his nephew died without heirs, legitimate or illegitimate, then his estate was to go to the United States to found in the City of Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men.



James Smithson

This was so unusual that the will's text was published in the *Times* of London and the *New York American* after Smithson's death in 1829 at the age of 64. But Smithson's nephew was young and healthy, and by all accounts, quite adept at spending money, so the clause was viewed as an interesting but unlikely prospect. However, just six years later, in 1835, Smithson's nephew died and the extraordinary clause went into effect. In 1838, the British Court of

Chancery awarded the estate to the United States. As the USS *Mediator* brought the proceeds of Smithson's estate (bags of gold coins worth \$508,318.46) across the ocean to the United States, the U.S. Exploring Expedition was just setting out across the Atlantic, in search of knowledge about all areas of the globe. The fates of these two ships were inextricably linked, their cargoes forever intertwined (Ewing 2007).

However, it took some time for these forces to play out. Smithson's gift was not welcomed by all. Anti-federalists opposed accepting a gift to the nation. Debates soon emerged over what the unknown English scientist had meant by the phrase "increase and diffusion of knowledge." The debates went on for over a decade until compromise legislation was passed on August 10, 1846, creating the Smithsonian Institution as a trust instrumentality of the United States—a public trust to carry out Smithson's mandate for the increase and diffusion of knowledge. But what exactly would this Institution be with such a vague will and broad legislative mandate? A university, an astronomical observatory, a national library, scientific laboratories, agricultural or mechanics institute, a botanic garden, a museum—there were many possibilities, and they included what was later called anthropology. Section 6 of the legislation established that "objects of foreign and curious research" and all objects of natural history belonging to the U.S. government, including the collections that had been held by the National Institute, were to go to the new Smithsonian to be preserved and studied.

The Board of Regents governing the new Institution first turned to building a suitable structure to house the Smithsonian, choosing a medieval-type design that they believed would inspire academic ideals. The building would house research, a national library and a national museum. This national museum would meet the need of the young nation for a temple of national identity that would place the United States on a par with the great capitals of Europe (Field et al. 1993).

As the first "Secretary" of the Institution, the Regents chose the noted physicist Joseph Henry, a professor at the College of New Jersey (now Princeton). Although reluctant to turn from his pioneering research in electromagnetism to the responsibilities of running a national museum or library, Henry took the legislative mandate seriously and established a "Programme of Organization." He divided the areas of knowledge into "sections," and

Section II, The Moral and Political Class, included Ethnology, incorporating particular history, comparative philology, antiquities, etc., providing a founding rationale for what would become Smithsonian anthropology (Henry 1847).

In the belief that the need to both increase and diffuse knowledge deserved equal weight, Henry established the Smithsonian's publication program and the International Exchange Service. This service distributed American publications throughout the world in exchange for foreign publications, which were then distributed to colleges and academies across the U.S. (Crawford 1897).

The first Smithsonian publication in 1848 was a work of anthropological research, *Ancient Monuments of the Mississippi Valley*, by Squier and Davis. With its fine illustrations, the publication established that the new Smithsonian would publish on serious research topics important to the United States—a key statement about the Smithsonian's intended role (Squier and Davis 1848).

The Original Collections

The Smithsonian soon received the scientific collections once held by the National Institute, including the natural history specimens and ethnographic materials collected by the U.S. Exploring Expedition. These and other ethnographic materials included extensive field notes, drawings, and artifacts, ranging from textiles, basketry, jewelry, masks, statues, tools, weapons, and household goods. They included items such as a portion of the lid of a mummy case from "Sacara" (Saqqara), donated in 1842 by the diplomat and Egyptologist George Roberts Gliddon (1809-1857). The items were carefully documented as to their provenance and use, making this a valuable collection for research. Cultures documented ranged from the Northwest Coast Indians to the Maori of New Zealand, from the Egyptians to the Hawaiians (Henson 2004).

Placed on display in the central hall of the new Smithsonian Institution Building, or the Castle, the exhibits immediately proved popular with the public, attracting a growing audience of curious visitors. These original collections were soon supplemented with a steady stream of new donations from around the globe. U.S. ambassadors, missionaries, scholars, and adventurers collected and sent objects back to the new museum. But Henry was very ambivalent about the museum and library. Maintaining collections was very expensive, and Henry feared



Exhibits in the Great Hall of the Smithsonian Castle, 1867.
Photo courtesy Smithsonian Institution Archives.

the collections would use up the Smithsonian endowment and leave little or no money for basic research. He believed the artifacts and specimens were valuable for research, but that a museum would only have local impact and limited educational value. Feeling similarly about the library, Henry had it removed from the Institution in 1865 and sent to the Library of Congress (Rothenberg et al. 2002).

The Emergence of Smithsonian Anthropology

Anthropology and its subdisciplines were just beginning to emerge as fields of research in the mid-nineteenth century. Indeed, many of the Smithsonian's early anthropologists began their careers in other fields: geology, mineralogy, or invertebrate zoology, to name a few. Fascinated by the cultures they encountered throughout North America, these scientists turned their attention to documenting the human, rather than the natural world. Secretary Henry was very supportive of anthropology, especially the field of linguistics. Throughout the second half of the nineteenth century, the Smithsonian supported the collection of Native American vocabularies. In 1861, George Gibbs published *Instructions for Research relative to the Ethnology and Philology of America*. Initially a mineralogist, Gibbs who worked for the Smithsonian without pay,

stimulated the collection of vocabularies and other ethnological information by missionaries and the Bureau of Indian Affairs staff and worked to publish the data (Hinsley 1981).

Gibbs' interest in the relationships among languages stimulated other work, including that of the early anthropologist Lewis Henry Morgan who called for an ethnological map. The Smithsonian issued a circular (or questionnaire) for Morgan's map and served as a central point for data collection. After the founding of the Bureau of American Ethnology in 1879, John Wesley Powell and his staff further systematized the linguistics work and the ethnographic map project. Throughout the 19th century, the Smithsonian published linguistic works in the appendices to its annual reports in the *Smithsonian Contributions to Knowledge*, and later, in the bulletins and annual reports of the Bureau of American Ethnology.

The museum side of anthropology continued to grow as well. In 1850, Spencer Fullerton Baird, a broad-based naturalist, was hired as the first curator of the Smithsonian. He later became the first director of the U.S. National Museum and the second Secretary of the Smithsonian. In contrast to Henry, who worried about the expense of keeping collections, Baird dreamed only of directing a great national museum and encouraged the donation of collections. Baird himself studied kitchen middens along the coast of Maine.

The museum's anthropological collections grew rapidly. In the 1870s, many ethnological artifacts were displayed in the Castle. For the purposes of comparison, Native American ethnological specimens were juxtaposed with artifacts from China, Japan, and prehistoric France. Along the arcades were portraits depicting American Indian delegates who visited Washington between 1858 and 1869, painted by the U.S. National Museum artist Antonio Zeno Shindler. Until they were destroyed in a fire in the Castle in 1865, the John Mix Stanley collection of North American Indian portraits had hung in the Castle. The 1850s, 1860s and 1870s were the decades of the exploration of the American West. Museum director Baird ensured that scientists accompanied almost all of the military and geological surveys of the West, and that the artifacts and specimens collected came to the Smithsonian. The Castle was soon packed with birds, dinosaurs, and baskets (Henson 2000).

The Centennial Exhibition of 1876

In the 1860s, Charles Rau, a language teacher in New York, began to write papers for the *Smithsonian Annual Report*. Having established a reputation as an excellent archeologist, in 1871, Rau was hired to prepare the ethnological section of the Smithsonian's exhibits at the Centennial Exhibition of 1876 in Philadelphia. The popular and well-received Centennial exhibits established the Smithsonian's reputation internationally. Objects such as a Tsimshian housefront were added to the growing collections and were soon on display in the Smithsonian building. Shortly after the Centennial, Secretary Henry died and Spencer Baird was appointed the second Secretary in 1878. Baird focused his energies on constructing a separate U.S. National Museum, now known as the the Arts and Industries building, and hiring a staff of professional curators. In 1881, as the museum opened, Rau was appointed Curator of the Department of Archeology. Until his death in 1887, Rau built the collections, organized the museum displays, and continued to publish in the Institution's journals (Hinsley 1981).

Rau was joined in 1884 by the new curator of ethnology, Otis Tufton Mason, a professor at Columbian College (now part of the George Washington University) in Washington, D.C. There, he and Powell had established the academic study of anthropology in the 1870s, and Mason received one of anthropology's first Ph.D's from the Columbian College in 1879. In the same year Mason helped found the Anthropological Society of Washing-

ton, the parent organization what would become the American Anthropological Association. Like Rau, Mason had worked on the exhibits for the Centennial Exhibition as a volunteer, beginning in 1872. Mason was influenced by the evolutionary ideas of Gustav Klemm, a German scholar. Using an evolutionary framework, Mason developed exhibits as synthetic series that demonstrated, he believed, the progress of a specific field of technology through all stages of development, from the most primitive societies to modern civilization. He believed that such exhibits reflected the stages through which human societies had advanced in their cultural development. Mason's "synoptic series" exhibits were attacked by Franz Boas, who argued that they were not based on data and that exhibits should focus on ethnic groups, not technological series. But Mason was first and foremost a collector, who believed that objects, more than anything else, told the story of human history (Hinsley 1981).

The expeditions to the American West were a great source of collections for the Smithsonian, but they also produced another great resource—anthropologists, such as William Henry Holmes and John Wesley Powell. The expeditions also led to the formation of a new organization at the Smithsonian—the Bureau of American Ethnology (BAE). Like many others on their travels west, Holmes and Powell had become fascinated by the artifacts of existing and earlier Native American cultures.

William Henry Holmes

As a child, William Henry Holmes (1846-1933) was equally interested in art, natural history, and geography. Those interests would serve him well in his long career with the Smithsonian. He was first hired as scientific illustrator for the Smithsonian in the early 1870s. In 1872 he was hired as an artist and geologist on the Hayden Yellowstone Survey and made his name as a major figure in the exploration of the West throughout the 1870s. In the 1880s, he continued working on surveys for the newly created U.S. Geological Survey and soon headed its scientific illustration division.

But Holmes had become fascinated by the Native American materials he encountered out West. His artistic eye was soon analyzing ceramics and other artifacts for patterns and relationships. He was named a curator of anthropology in the National Museum. In 1889 he joined the staff of the Bureau of American Ethnology, but soon left for the Field Museum in Chicago. He returned to di-



Anthropology exhibit at the Philadelphia Centennial Exposition, 1876. Photo courtesy Smithsonian Institution Archives.

rect the BAE from 1902 to 1909, albeit reluctantly. In 1909 he was appointed Head Curator of Anthropology in the National Museum, where he remained the rest of his life. In 1920, he was also appointed Director of the Smithsonian Gallery of Art and oversaw its expansion into a major museum. A man of many talents, Holmes exemplified the self-taught amateurs who became professionals in the second half of the 19th century. He set high standards for accuracy in scientific illustration, in geological mapping, and in analysis of artifacts.

He also was well-known for refusing to believe that the stone points found by collectors were from an ancient society—he argued they were incomplete rejects from modern Native Americans. He was not convinced until 1926, when Jessie Figgins carefully excavated an extinct bison with Folsom points embedded in its ribs. Only then would Holmes accept the antiquity of Native Americans in North America.

John Wesley Powell

The geological surveys of the American West produced another towering figure in Smithsonian anthropology: John Wesley Powell (1834-1902). Like Holmes, Powell was interested in natural history as a youth. With some course work at Wheaton and Oberlin Colleges, he soon became well-known as an amateur natural historian, as well as a collector of Native American materials. He served in the Civil War and lost his right arm below the elbow at the Battle of Shiloh. After the war, Major Powell, as he was known, taught at Illinois Wesleyan College and began systematic surveys of the Colorado Rockies. In 1868-1869, he conducted his first anthropological studies among the Ute tribe. In May 1869, with support from a variety of organizations, including the U.S. Army and Smithsonian Institution, Powell led a daring and epic adventure down the Colorado and Green Rivers. When he and his party emerged from the Grand Canyon on August 29, the first Westerners to ever see and document the Colorado River in Grand Canyon, Powell was an instant hero. He received government appropriations for his subsequent surveys, and his *Explorations of the Colorado River* and later publications were well-received.

In 1872, Powell was appointed a special commissioner of Indian Affairs and served as an informal advisor to Congress on Indian affairs, western land policy, and science policy. His *Report on the Lands of the Arid Region*



John Wesley Powell with a Paiute Indian near Kaibab Plateau. Photo by John K. Hillers, 1873. Courtesy Smithsonian Institution Archives.

of the United States argued for careful control of western water sources; it was ignored at the time but is now regarded as visionary. In 1879, Major Powell was appointed director of a new organization within the Smithsonian, the Bureau of Ethnology, renamed later the Bureau of American Ethnology. Powell remained in that position until 1902, simultaneously running the U.S. Geological Survey, also created in 1879. Powell advocated a strong federal science program and the application of scientific principles to government policies such as land use (Hinsley 2981; Judd 1968; Noelke 1974).

Powell's BAE was the leading center for American ethnology in the late 19th century. It was also the home of a number of fascinating personalities, men and women who bridged the transition from amateur to professional. Interestingly, the BAE employed or supported a number of early women anthropologists, who were seen as uniquely able to work with women informants (Lurie 1966; Noelke 1974).

Matilda Cox Stevenson and the Zuni

In 1879, shortly after the BAE was founded, geologist James Stevenson was sent to Zuni Pueblo to conduct archaeological studies. He was accompanied by his formidable wife, Matilda or Tilly as she was known, who studied the role of women in Zuni society, especially domestic practices and childrearing. She then turned to the complex and fascinating Zuni spiritual world. After her husband's

death in 1888, Tilly Stevenson continued doing field work and producing publications for the Bureau. Her aggressive style of gaining access to rituals was often criticized, and she is remembered for her ability to intimidate the feisty director of the Bureau, John Wesley Powell. As with many women who depart from the norms of female behavior, Tilly Stevenson is often remembered more for her personality than her scientific contributions. But her colleagues acknowledged that she had a fine grasp of the significance of Zuni ritual; indeed, the Zunis permitted her unusual access to rituals because they believed she understood their meanings and purposes. She did not romanticize the Indians' place in American society. She saw acculturation as leading to a breakdown of Zuni values and social structure, a loss, not gain, for the Zuni. Mrs. Stevenson was on the payroll of the BAE for many years as an independent researcher who reported to BAE managers but did not work directly for them. She worked at home, struggling with ill health and alcoholism. When the Bureau furloughed her in 1901, she exerted her considerable political influence and kept her status until she completed her major work on the Zuni in 1904 (Hinsley 1981; Judd 1968).

Alice Cunningham Fletcher and the Omaha

At about the same time that Stevenson arrived at Zuni Pueblo, Alice Cunningham Fletcher took up the study of Indian culture. In 1879 she traveled from Boston to Omaha, Nebraska, to begin studies of Omaha culture. Fletcher loved the rigors of living in Indian villages and was motivated by a desire to improve Indian life. Her ethnological



Mountain Chief, Chief of Montana Blackfeet, listening to song being played on a phonograph and interpreting it in sign language to Frances Densmore, 1916. Photo courtesy the National Anthropological Archives.

reports on the Omaha were usually published by the BAE, sometimes coauthored with Francis LaFlesche, an Omahan who became like a son to her. LaFlesche was on the staff of the Bureau of Indian Affairs and later the BAE. Fletcher was named a collaborator of the BAE and used this connection to secure publication of her research. Unfortunately, she also was a strong advocate for social change. She secured passage of a bill that created homesteads for the Indians but cost them free access to a larger set of lands. Since the Omaha community never took well to settled farming, her program of social amelioration led to further deterioration of their culture and economic status (Hinsley 1981; Judd 1968; Welch 1980).



Alice Cunningham Fletcher. Photo courtesy the National Anthropological Archives.

Frances Densmore and Indian Song and Dance

These women paved the way for Frances Densmore, who also worked as an independent scholar with BAE support after the turn of the century. Educated at Oberlin, she combined interests in music and ethnology to create a career studying Indian song and dance. Armed with wax cylinders, she traveled across the country recording Indian music, analyzing the relationships between tribes and the significance of ritual in Indian life. From 1907 to her 1957 death, the Bureau paid her though she never worked in residence in Washington. The Smithsonian Densmore Collection of Indian song contained over 2400 songs by the time of her death. She described and transcribed each

song and collected Indian instruments for the Museum. She analyzed the songs musically and described their relationship to Indian culture. She completed a volume on the music of four Southwestern tribes in her 90th year. Unlike Stevenson, she had fine relations with the tribes she studied, and unlike Fletcher, she did not romanticize their role in American society (Judd 1968).

The Establishment of a Profession

Anthropology provided fine career opportunities for women of independent spirit committed to research. None was ever in residence at the museum; perhaps as a corollary to their independent status, all three devoted their time to research and publication, rather than menial or clerical duties. None ever entered management, but Alice Cunningham Fletcher founded the Women's Anthropological Society of Washington since the original Anthropological Society of Washington (ASW), founded by Mason, did not initially admit women. In 1903, however, Fletcher became the first woman president of the ASW, when the two organizations merged. These women pioneers, like Stevenson and Fletcher, established a role for women in anthropology and moved beyond studies of domestic life into studying all aspects of culture.

By the mid-1880s, the BAE was an established institution, beginning to exert authority over American anthropology. The Smithsonian, which itself came into being through a curious intersection of American national aspirations and an emergent western interest in natural history as an adjunct to imperialism, played a central role in the emergence of anthropology as a profession. In America, this profession was focused especially on the ethnology, linguistics and archaeology of Native Americans. The BAE also had fostered the careers of several early anthropologists, including several women. Washington, with its professional societies, colleges, National Museum, and the BAE was the American center of the new discipline until the early 1920s when the anthropology departments in several universities, including Harvard and Columbia, were exerting leadership in the profession as well.

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COMINGS AND GOINGS

After 29 years, the *AnthroNotes*' editorial board is undergoing a major transition. JoAnne Lanouette, one of the founding editors, is retiring and venturing into new directions. We are grateful for her many contributions, long years of dedicated service, warm friendship, and hearty laughter. We wish her much joy in the years ahead.

JoAnne first became hooked on anthropology as a college freshman when her professor, who spoke seven languages, vividly described his ethnographic fieldwork in Burma, where he even joined a group of monks with his own begging bowl. Later, when teaching English at the American School in London — and also traveling around Europe, the Middle East, and Russia, then the Soviet Union— she realized her graduate studies had to be in anthropology. This she pursued at The George Washington University, where her interests blossomed with coursework in primates, linguistics, and biogeography. In 1977, the National Science Foundation (NSF) initiated a program to bridge the gap between university professors and high school teachers. JoAnne knew this spoke to her passion to help students stop the stereotyping that prevents us from understanding different ways of living. Joining forces with Ruth Selig, Ann Kaupp, and their former anthropology professor Alison Brooks, the NSF-funded George Washington University/Smithsonian Institution Anthropology for Teachers Program was born. JoAnne co-taught courses in Montgomery County, Fairfax County, and the District of Columbia and helped write and edit *AnthroNotes*. She used her infant daughters as human models of primate behavior in her teacher training classes.

In 1984 JoAnne returned to high school teaching at the Sidwell Friends School in Washington, DC. For twenty-four years, she taught English and American Studies. She also served as department chair, faculty clerk, and chaperone for students on trips to Japan and China. For twenty years, she helped organize the Japanese Language and Culture Summer Study Program and helped lead its orientation sessions. She also enjoyed designing an anthropology-based English course for seniors called Individualism and Cultural Pressures. Over the years, she incorporated many *AnthroNotes* articles into her courses. She also found her anthropology training invaluable while serving on the Sidwell Diversity Committee and facilitating diversity roundtables.

Newly-appointed *AnthroNotes* editor Carolyn Gecan will replace JoAnne, continuing to lend a classroom perspective to the publication. Carolyn fell in love with anthropology after coming face-to-face with culture shock in 1970. Following her college graduation, prepared to teach world studies and cultural geography to secondary students, she found herself living in Morocco, teaching kindergarten in two Department of Defense schools. Studying Arabic and French, tutoring English, and learning to teach five-year-olds, she immersed herself in Moroccan culture. During her two years there, Carolyn traveled throughout Morocco and Western Europe. In 1971 she experienced the effects of a failed *coup d'état* in Morocco, the beginning of many first-hand “adventures in anthropology.”

A year after returning to the United States, she began teaching gifted high school students in Fairfax County, Virginia. As a member of a humanities teaching team, she partnered with others to infuse anthropology into the curriculum. From there she eventually found her way to Thomas Jefferson High School for Science and Technology, a Virginia state Governor's School, where she has been teaching since 1988. Hired to create a new anthropology program, she drew upon her post-graduate work in biology, culture studies, geography, art history, ancient history and archaeology. The curriculum incorporates elements from the Anthropology for Teachers Program and *AnthroNotes*. The one-semester elective course has grown in enrollment and a second teacher has been added. Carolyn's varied experiences have included serving as a teacher-advisor to the editors of *Anthropology Explored* (see page 11) and working briefly as a volunteer at the Chimpanzee and Human Communication Institute, summer 2006.

Throughout her career Carolyn has accompanied many student groups to Europe, North Africa and the Middle East. She won a summer Fulbright scholarship to study education in urban and rural China. She co-authored and co-administered three year-long NEH grants funding the Jefferson Institute on the Foundations of Ethics in Western Society. In addition she co-produced an internationally-televised program linking her school with an expedition to transect Africa; wrote curriculum for *Smithsonian World's* “Gender: An Enduring Paradox”; and scripted a six-part educational series on Chinese culture for a local public television station. Along the way she earned a Masters in Education from George Mason University.



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2. To help those teaching anthropology utilize new materials, approaches, and community resources, as well as integrate anthropology into a wide variety of subjects; and
3. To create a national network of anthropologists, archaeologists, teachers, museum and other professionals interested in the wider dissemination of anthropology, particularly in schools.

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